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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/493,063	01/28/00	MORIFUJI	E PM 266202

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EXAMINER

LEE, E

ART UNIT

PAPER NUMBER

2815

DATE MAILED: 03/14/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/493,063

Applicant(s)

MORIFUJI, EIJI

Examiner

Eugene Lee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 January 2000.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) 4, 15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 January 2000 is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 18) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Group I (claims 1-13) in Paper No. 9 is acknowledged.
2. Claims 14 and 15 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 9.

Drawings

3. FIG. 9 and 10 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g).

Specification

4. The disclosure is objected to because of the following informalities: *first* appearing on page 3, line 20, the word "single" is spelled incorrectly; on page 7, line 18, the word "ion" should be plural.

Appropriate corrections are required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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6. Claim 5 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- a. Based on applicant's disclosure, the first interconnection 110 does not constitute a signal input pad as stated in claim 5. Rather, the second interconnection 116, 115 on the surface of the device constitutes the signal input pad.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

8. Claims 1 thru 4, and 7 thru 11 are rejected under 35 U.S.C. 102(e) as being anticipated by Ma et al. '753. Ma shows (see, for example, FIG. 8) a semiconductor device comprising a substrate 11, MOSFET 115, metallization regions (first interconnection) 133, heavily doped region (high concentration impurity diffused region) 89, metallization regions (second interconnection) 135, and titanium silicide region (low resistance layer) 99. A field oxide layer (device isolation film) 38 envelopes the heavily doped region.

- a. Regarding claim 4 and 11, see column 8, lines 37-47.

- b. Regarding claim 7 and 8, the metallization regions 135 are electrically coupled to polysilicon plates (polysilicon layer) 44, 56 which lie above a field oxide layer 38. Also, a titanium silicide region 107 resides on top of the polysilicon plates.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 5 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ma et al. '753 as applied to claims 1 thru 4, and 7 thru 11 above, and further in view of Miura '917. Ma et al. does not show a first interconnection constituting a signal input pad for receiving an input signal for the MOSFET. However, Miura teaches that a metal interconnection can constitute a signal input pad. Miura shows in FIG. 1 a square bonding pad 11 connected to a metal interconnection that extends to the top of the transistor 15. The square bonding pad and metal interconnection constitute one metal layer. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to incorporate an input pad to Ma's metallization region so that one can apply an input signal to a device in one single metal layer, as shown by Miura.
11. Claims 6 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ma et al. '753 as applied to claims 1 thru 4 and 7 thru 11 above, and further in view of Morifuji '504. Ma does not disclose a plurality of MOSFETs disposed in a comb-like shape on the semiconductor

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substrate forming an amplifier stage. However, Morifuji discloses MOSFETs formed in a comb-shaped structure in an amplifier circuit. Morifuji teaches that this comb-shaped structure will exhibit a low noise characteristic. See, for example, column 1, lines 7-21. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to use a comb-shaped structure so that noise is decreased, as taught by Morifuji.


INFORMATION ON HOW TO CONTACT THE USPTO

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eugene Lee whose telephone number is 703-305-5695. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie C. Lee can be reached on 703-308-1690. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

Eugene Lee
March 12, 2001



EDDIE LEE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800